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EXAMINER	
FEELY, MICHAEL J	

ART UNIT	PAPER NUMBER
1796	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/667,648	CHRISTIANSEN ET AL.	
	Examiner	Art Unit	
	Michael J. Feely	1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 October 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7,9-14 and 16-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7,9-14 and 16-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Pending Claims

Claims 1-7, 9-14, and 16-18 are pending.

Response to Amendment

1. The rejection of claims 1-7, 9-11, 14, and 16-18 under 35 U.S.C. 102(b) as being anticipated by de la Mare et al. (EP 0083813) has been overcome by amendment.

2. The rejection of claims 1-4, 14, 16, and 17 under 35 U.S.C. 102(b) as being anticipated by Shomer (US Pat. No. 5,958,593) has been overcome by amendment.

3. The rejection of claims 12 and 13 under 35 U.S.C. 103(a) as being unpatentable over de la Mare et al. (EP 0083813) has been overcome by amendment.

4. The rejection of claim 5 under 35 U.S.C. 103(a) as being unpatentable over Shomer (US Pat. No. 5,958,593) has been overcome by amendment.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-7, 9, 14, and 16-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Alvino et al. (US Pat. No. 4,327,143).

Regarding claims 1-7, 9, 14, and 16-18, Alvino et al. disclose: ***(1)*** a process for preparing a resin coated article, the process comprising contacting a substrate with an accelerated resin composition (Example 2 and Comparative Example 3: column 9, line 25 through column 11, line 48) comprising an epoxy resin (Example 2 and Comparative Example 3; column 4, lines 28-41), a curing agent (Example 2 and Comparative Example 3; column 5, line 66 through column 6, line 63), and an alkali metal containing cure accelerator compound *see claim for list* (Example 2 and Comparative Example 3; column 5, lines 22-37); wherein the curing agent is a dicyandiamide or a melamine (Example 2 and Comparative Example 3; column 5, line 66 through column 6, lines 63); wherein the epoxy resin is derived from the reaction of an epihalohydrin and a phenol or a phenol type compound (Example 2 and Comparative Example 3; column 4, lines 28-41); and wherein the contacting occurs by a contacting method (Example 2 and Comparative Example 3);

(2) wherein the accelerated resin composition further comprises one or more solvents (Example 2 and Comparative Example 3);

(3) wherein the accelerated resin composition is in powder, hot melt, solution, or dispersion form (Example 2 and Comparative Example 3);

(4) wherein the contacting method is selected from the group consisting of powder coating, spray coating, die coating, roll coating, resin infusion and contacting the substrate with a bath comprising the accelerated resin composition (Example 2 and Comparative Example 3);

(5) wherein the substrate comprises a material selected from the group consisting of glass, fiberglass, quartz, paper, thermoplastic resin, an unwoven aramid reinforcement, carbon, graphite, ceramic, metal and combinations thereof (Example 2 and Comparative Example 3);

(6) wherein the article is a prepreg, wherein the substrate comprises a material selected from the group consisting of glass, fiberglass, quartz, paper, thermoplastic resin, an unwoven aramid reinforcement, carbon, graphite, ceramic, metal and combinations thereof, and wherein the contacting occurs in a bath comprising the accelerated resin composition and optionally one or more solvents (Example 2 and Comparative Example 3); *(7)* wherein the substrate is glass or fiberglass in the form of a woven cloth or a mat (Example 2 and Comparative Example 3);

(9) wherein the alkali metal containing cure accelerator compound is selected from the group consisting of an alkali metal containing hydroxide, alkoxide, phenoxide, carboxylate, halide salt, carbonate and combinations thereof (Example 2 and Comparative Example 3; column 5, lines 22-37);

(14) wherein the alkali metal containing cure accelerator compound is utilized in an amount greater than 0.00001 molar equivalents per 100 grams of epoxy resin solids (Example 2 and Comparative Example 3; column 5, lines 22-37);

(16) wherein the phenol or a phenol type compound is selected from the group consisting of bisphenols, halogenated bisphenols, hydrogenated bisphenols, novolac resins, polyalkylene glycols and combinations thereof (Example 2 and Comparative Example 3; column 4, lines 28-42);

(17) a resin coated article prepared by the process of claim 1 (Example 2 and Comparative Example 3); and

(18) a prepreg prepared by the process of claim 1 (Example 2 and Comparative Example 3).

7. Claims 1-4, 9, 10, and 16-18 rejected under 35 U.S.C. 102(b) as being anticipated by Bagga (US Pat. No. 4,284,574).

Regarding claims 1-4, 9, 10, and 16-18, Bagga disclose: ***(1)*** a process for preparing a resin coated article, the process comprising contacting a substrate with an accelerated resin composition (column 7, lines 15-23) comprising an epoxy resin (Abstract; column 7, line 63 through column 9, line 33), a curing agent (column 7, lines 15-23), and an alkali metal containing cure accelerator compound *see claim for list* (column 7, lines 15-23); wherein the curing agent is a dicyandiamide or a melamine (column 7, lines 15-23); wherein the epoxy resin is derived from the reaction of an epihalohydrin and a phenol or a phenol type compound (Abstract; column 7, line 63 through column 9, line 33); and wherein the contacting occurs by a contacting method (column 7, lines 55-62);

(2) wherein the accelerated resin composition further comprises one or more solvents (column 9, lines 34-36);

(3) wherein the accelerated resin composition is in powder, hot melt, solution, or dispersion form (Abstract);

(4) wherein the contacting method is selected from the group consisting of powder coating, spray coating, die coating, roll coating, resin infusion and contacting the substrate with a bath comprising the accelerated resin composition (Abstract; column 7, lines 55-62);

(9) wherein the alkali metal containing cure accelerator compound is selected from the group consisting of an alkali metal containing hydroxide, alkoxide, phenoxide, carboxylate, halide salt, carbonate and combinations thereof (column 7, lines 15-23);

(10) wherein the alkali metal containing compound is represented by the formula MOR or $(MO)_n$-R wherein M is a metal selected from Group 1 of the periodic table of elements, O is oxygen, and R is hydrogen or a substituted or unsubstituted hydrocarbyl group (column 7, lines 15-23);

(16) wherein the phenol or a phenol type compound is selected from the group consisting of bisphenols, halogenated bisphenols, hydrogenated bisphenols, novolac resins, polyalkylene glycols and combinations thereof (Abstract; column 7, line 63 through column 9, line 33);

(17) a resin coated article prepared by the process of claim 1 (column 7, lines 55-62); and

(18) a prepreg prepared by the process of claim 1 (column 7, lines 55-62).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claims 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bagga (US Pat. No. 4,284,574).

Regarding claims 11-13, Bagga discloses the use of alkali metal alkoxides *(see column 7, lines 15-23)*; however, they fail to explicitly disclose: *(11)* wherein M is lithium, sodium or potassium, and R is hydrogen or a C_1 to C_{40} hydrocarbyl group; *(12)* wherein OR represents a hydroxy, a methoxy, an ethoxy, an n-propoxy, an isopropoxy, an n-butoxy, an iso-butoxy, a sec-butoxy, a tert-butoxy, or a phenoxy group; and *(13)* wherein the alkali metal containing

compound is selected from the group consisting of lithium hydroxide, sodium hydroxide, potassium hydroxide, sodium methoxide, potassium methoxide, lithium methoxide and combinations thereof.

It is the Examiner's position that the skilled artisan would have readily envisaged these particular materials based upon the disclosure of *alkali metal alkoxides*. The claims disclose the most common of the alkali metals. Furthermore, the claims disclose the most common of lower-alkoxides, including methoxy. At the very least, these lower alkoxy groups are obviously encompassed by the prior art's disclosure of *alkali metal alkoxides*.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the materials of claims 11-13 in the composition of Bagga because Bagga contemplates the use of *alkali metal alkoxides* as accelerators in concert with dicyandiamide curing agents. At the very least, these lower alkoxy groups are obviously encompassed by the prior art's disclosure of *alkali metal alkoxides*.

Regarding claim 14, Bagga fails to explicitly disclose: ***(14)*** wherein the alkali metal containing cure accelerator compound is utilized in an amount greater than 0.00001 molar equivalents per 100 grams of epoxy resin solids. However, the skilled artisan would have recognized the accelerator amount as a result effective variable. A minimum amount would have been required to effectively accelerate the curing reaction.

In light of this, it has been found that, "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation," – *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955); and "A particular parameter must first be recognized as a result-effective variable, i.e., a variable

which achieves a recognized result, before the determination of the optimum or workable ranges of said variable might be characterized as routine experimentation," –*In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the instantly claimed amount of accelerator in the composition of Bagga because the skilled artisan would have recognized the accelerator amount as a result effective variable. A minimum amount would have been required to effectively accelerate the curing reaction.

10. Claims 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bagga (US Pat. No. 4,284,574) in view of Alvino et al. (US Pat. No. 4,327,143).

Regarding claims 5-7, Bagga discloses the formation of prepregs *(see column 7, lines 55-62)*; however, he fails to explicitly disclose the substrate materials set forth in claims ***(5-7)***.

The teachings of Alvino et al. are as set forth above and incorporated herein. They also form prepreg materials *(see Example 2 and Comparative Example 3)*, and their teachings demonstrate that these substrate materials, particularly glass fiber sheets, are recognized in art as suitable substrate materials for prepregs. In light of this, it has been found that the selection of known material based on its suitability for its intended use supports a *prima facie* obviousness determination – *see MPEP 2144.07*.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the instantly claimed substrate materials, as taught by Alvino et al., in the prepreg of Bagga because the teachings of Alvino et al. demonstrate that these substrate materials, particularly glass fiber sheets, are recognized in art as suitable substrate materials fore prepregs.

Response to Arguments

11. Applicant's arguments with respect to the pending claims have been considered but are moot in view of the new ground(s) of rejection.

12. The declaration under 37 CFR 1.132 filed October 15, 2007 has been considered. However, the statements made therein are moot because: the previous rejections were overcome by amendment; and all the pending claims are subject to new ground(s) of rejection.

Conclusion

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Communication

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Feely whose telephone number is 571-272-1086. The examiner can normally be reached on M-F 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Y. Pyon can be reached on 571-272-1498. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Michael J. Feely
Primary Examiner
Art Unit 1796

December 21, 2007

MICHAEL FEELY
PRIMARY EXAMINER